Title of Instructional Materials: Pearson - CME Project Alg I

Grade Level: <u>Algebra I</u>

$\underline{\textbf{Summary of Pearson - CME Project Alg I}}$

Overall Rating:	☐ Weak (1-2) ☑ Moderate (2-3)	Important Mathematical Ideas:	 Weak (1-2) Moderate (2-3)
	Strong (3-4)		Strong (3-4)
Summary / Justification / Evic			
The text is strong in its development	nent of conceptual skills and	Summary / Justification / Evident	ence:
procedures, but the connections	between topics are weak.	This text develops important mat however, they do not always inte	1
Skills and Procedures:	Weak (1-2)Moderate (2-3)Strong (3-4)	Mathematical Relationships:	✓ Weak (1-2)✓ Moderate (2-3)✓ Strong (3-4)
Summary / Justification / Evic Problem sets integrate ideas and They are embedded in problem	d are not isolated skills (p. 323-326).	or presentation prohibit the stud	nd procedures because of the order

20

Leosonofactivities for things that are not included but these were not included for review so could not

Seems to be excelching to

cover material mot

vally covering much

g it

examples + discussion

lacking

Ly would Not recommen

Instructional Materials **Analysis and Selection**

Phase 3: Assessing Content Alignment to the Common Core State Standards for Mathematics

Traditional Pathway for High School: Algebra I





Phase 3:

Assessing Content Alignment to the Common Core State Standards for Mathematics

A project of

The Indiana Education Roundtable, The Indiana Department of Education, and

The Charles A. Dana Center at The University of Texas at Austin

2010-2011

Reviewed By:

Province Province

Title of Instructional Materials: CME Project - Alg I

ALGEBRA I — NUMBER AND QUANTITY (N)

The Real Number System (N-RN)

Extend the properties of exponents to rational exponents.	Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.
N-RN.1	production indicated.
Explain how the definition of the meaning of rational exponents follows from extending the properties of integer exponents to those values, allowing for a notation for radicals in terms of rational exponents. For example, we define $5^{1/3}$ to be the cube root of 5 because we want $(51/3)^3$ must equal 5.	Important Mathematical Ideas 1 2 3 4
(5 ^{1/3}) ³ must equal 5.	Skills and Procedures 1 2 3 4
	Mathematical Relationships 1 1 2 3 4
	Summary / Justification / Evidence
Indicate the chapter(s), section(s), and/or page(s) reviewed.	
COVERED.	Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):
	Overall Rating 1 2 3 4

Reviewed By:	
Title of Instructional Materials:	

ALGEBRA I - NUMBER AND QUANTITY (N)

Extend the properties of exponents to rational exponents.	Summary and documentat met. Cite examples from the	ion of how ne materials	the domain, clu	ster, and stand	dard are
N-RN.2					
Rewrite expressions involving radicals and rational exponents using the properties of exponents.	Important Mathematical Ideas	1	2	3	4
	Skills and Procedures				
	Citilio and Procedures	1	2	3	4
	Mathematical Relationships	1	(2)	3	1.
	Summary / Justification / E	vidence			
Indicate the chapter(s), section(s), and/or page(s) reviewed.					
6.11 CC:A17	Portions of the domain, cludeveloped in the instruction of the domain of the instruction of the domain of the instruction of the domain of the instruction of the	nal materia	de (if any)		ot well
	Overall Rating	+		1	—

Reviewed By:	
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IIIA	O.t.	Inctmintional	N / - + 1
11110	OI	Instructional	ivialeriais:

ALGEBRA I — NUMBER AND QUANTITY (N)

The Real Number System (N-RN)

Use properties of rational and irrational numbers.	Summary and documentati met. Cite examples from the	on of how the	ne domain, clus	ster, and stand	ard are
N-RN.3	The same examples from the	c materials.			
Explain why the sum or product of two rational numbers is rational; that the	Important Mathematical Ideas				
sum of a rational number and an irrational number is irrational; and that the product of a nonzero rational number and an irrational number is irrational.	MC for the contract of the con	1	2	3	4
	Skills and Procedures	4		a Judgett var	
			2	3	4
	Mathematical Relationships	4.1			
		1	2	3	4
ndicate the chapter(s), section(s), and/or page(s) reviewed.	Summary / Justification / Ex ch Ch le, defines , w operations just	rat + in,	but never	explains p	noper
1.13 1.15 6.10 CCAL.6	Portions of the domain, clus	\$- c	ndard that are	missing or not	well
6.10	developed in the instruction No discussion 50 why? 1	nal materials	s (if any):	10	
6.10	No discussion 50	nal materials	s (if any):	10	

Reviewed By:	

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ITLA	O.t	Instructional	Λ/	lateriale
11110	OI	msuuchonai	IV	lattilais.

${\sf ALGEBRA\:I-NUMBER\:AND\:QUANTITY\:(N)}$

Quantities (N-Q)

Reason qu	uantitatively and use units to solve problems.	Summary and documentat met. Cite examples from the	ion of how to materials	the domain, clu	ster, and stand	lard are
N-Q.1	77	1.				
multi-step	as a way to understand problems and to guide the solution of problems; choose and interpret units consistently in formulas; d interpret the scale and the origin in graphs and data displays.*	Important Mathematical Ideas	-1	2	3	4
Note: Founda	ation for work with expressions, equations and functions.	A COMMON TO				
		Skills and Procedures				→
			1	2	3	4
		Security of the shifts				
		Mathematical Relationships	+			─
			1	2	3	4
		Summary / Justification / E	Evidence			
Indicate t	he chapter(s), section(s), and/or page(s) reviewed.	to T f as Table 75				
2.17	8.7 Ex 4-7	Portions of the domain, clu	uster, and s	tandard that ar	e missing or no	t well
		developed in the instruction		Is (if any):		
3.4	8.11	Weren't really choos	ing units			
3.7	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	and the second s				
3.9						
3.15	office or trifficial Month at State of Monte.	Overall Rating				
4.3		1	4	10	-	→
וטיד	NAME OF THE PERSON OF THE PERS		1	2	3	4

Reviewed By:	
Title of Instructional Materials:	

ALGEBRA I — NUMBER AND QUANTITY (N) Quantities (N-Q)

Reason quantitatively and use units to solve problems.	Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.
N-Q.2 Define appropriate quantities for the purpose of descriptive modeling.* Note: Foundation for work with expressions, equations and functions.	Important Mathematical Ideas 1 3 4
	Skills and Procedures 1 3 4
	Mathematical Relationships 1 2 3 4
Indicate the chapter(s), section(s), and/or page(s) reviewed. 4.3	Summary / Justification / Evidence Not sure we are really defining appropriate quantities Just lesson on rate of change Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):
	Overall Rating 1 2 3 4

Reviewed By:	×

Titla	of Instruction	onal Materials:	
little	of Instruction	onal Materials:	

ALGEBRA I — NUMBER AND QUANTITY (N)

Quantities (N-Q)

Reason quantitatively and use units to solve problems.	Summary and documentation of how the domain, cluster, and standard a met. Cite examples from the materials.				dard are
N-Q.3					
Choose a level of accuracy appropriate to limitations on measurement when reporting quantities.*	Important Mathematical Ideas	1)	2	3	
Note: Foundation for work with expressions, equations and functions.	An in the 1970 and the				
	Skills and Procedures	4			
	The Prince of the		2	3	4
	the part of the				
	Mathematical Relationships	+			
		1	2	3	4
	Summary / Justification / E	vidence	s motor stand	dard	
Indicate the chapter(s), section(s), and/or page(s) reviewed.					
4.15 Lines trend Scatterplato	Portions of the domain, clu developed in the instruction	nal materia	ils (if any):	missing or n	ot well
	No discussion of les	rel gacci	iacy		
		. 61			
	Overall Rating	++ 0			
		1	2	3	4

Reviewed By:

Title of Instructional Materials:

ALGEBRA I - ALGEBRA (A)

Seeing Structure in Expressions (A-SSE)

Summary and documentation of how the domain, cluster, and standard are Interpret the structure of expressions. met. Cite examples from the materials. A-SSE.1a Important Mathematical Ideas 1. Interpret expressions that represent a quantity in terms of its context.* a. Interpret parts of an expression, such as terms, factors, and coefficients. Note: Linear, exponential, quadratic. Skills and Procedures Mathematical Relationships Summary / Justification / Evidence Covers Terms + how to use Indicate the chapter(s), section(s), and/or page(s) reviewed. 7.8 1.2-2.3 Portions of the domain, cluster, and standard that are missing or not well 7.10 2.5 developed in the instructional materials (if any): 2.8 2.17 doesn't have student interpret in term of 3.3 context 4.6

Overall Rating

7-1-7.2

1.5

4

Reviewed By:	

Title of Instructional Materials:

ALGEBRA I - ALGEBRA (A)

Seeing Structure in Expressions (A-SSE)

Interpret the structure of expressions.	Summary and documentation of how the domain, cluster, and met. Cite examples from the materials.				
A-SSE.1b	Important Mathematical Ideas				
 Interpret expressions that represent a quantity in terms of its context.* 	important Mathematical Ideas	4			
 b. Interpret complicated expressions by viewing one or more of their parts as a single entity. For example, interpret P(1+r)ⁿ as the product of P and a factor not depending on P. Note: Linear, exponential, quadratic. 		1	(2)	3	4
	Skills and Procedures	1	2	3	4
	5 4 8 1 0 F 4 P				
	Mathematical Relationships	+			
			2	3	4
	Summary / Justification / E	vidence			
Indicate the chapter(s), section(s), and/or page(s) reviewed.					
2.5 & 5 3.3 4.6 7.10 8.14	Portions of the domain, clu developed in the instruction again, not real No liferal egs	nal materia	Is (if any):		ot well
	Overall Rating		D I		→

Reviewed By:

Title of Instructional Materials:

ALGEBRA I - ALGEBRA (A)

Seeing Structure in Expressions (A-SSE)

Interpret the structure of expressions.	Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.				
A-SSE.2					
Use the structure of an expression to identify ways to rewrite it. For example, see $x^4 - y^4$ as $(x^2)^2 - (y^2)^2$, thus recognizing it as a difference of squares that can be factored as $(x^2 - y^2)(x^2 + y^2)$.	Important Mathematical Ideas	1	2'	3	4
Note: Linear, exponential, quadratic.					
	Skills and Procedures	+			→
		1	2	3	4
	Mathematical Relationships	4			
		1	2	3	4
	Summary / Justification / Ev				
	How to change lines	n con	end		
Indicate the chapter(s), section(s), and/or page(s) reviewed.	Contract of the Contract of th				
2.9	Portions of the domain, clus developed in the instruction	ster, and al mater	standard that are	missing or no	t well
7.2	No exponent rules	ا ر	Not different by No exponentia	peo though	
7.3 7.9	No exponent rules No quadratics		No exponentre	al .	
7-10	Overall Rating	46		1	1.5
7. I		1	2	3	4

D 1 D		
Reviewed By:		

Title of Instructional Materials:

ALGEBRA I — ALGEBRA (A)

	S					
Write expressions in equivalent forms to solve problems.	Summary and documentati met. Cite examples from the	ion of how to e materials	the domain, clu •	ster, and stand	d Standard are	
A-SSE.3a	. 12 2 2 3 Y R R R . 2					
3. Choose and produce an equivalent form of an expression to reveal and explain properties of the quantity represented by the expression.*	Important Mathematical Ideas	1	1 2	3	4	
 Factor a quadratic expression to reveal the zeros of the function it defines. 	Partients VPIs 4 × R					
Note: Quadratic and exponential.	Skills and Procedures	1	(2)	MD	4	
	The state of the same					
	Mathematical Relationships	+	-		→	
		1	2	3	4	
	Summary / Justification / E	Evidence				
Indicate the chapter(s), section(s), and/or page(s) reviewed.						
7.2	Portions of the domain, clu	istor and a	tandard that are		4 11	
7.3	developed in the instruction	onal materia	ls (if any):	e missing or no	ot well	
7.4						
7.11	in a reserve a second	- 1412 Tay				
8.6	Overall Rating	+		PAC	→	
Wolfie Strivens - Exercise Las LASSE		1	2	\bigcup_3	4	

Reviewed By:	

Title of Instructional Materials:

ALGEBRA I — ALGEBRA (A)

Seeing Structure in Expressions (A-SSE)

Write expressions in equivalent forms to solve problems.	Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.				
A-SSE.3b	Income de la Marilla de Caralla de la Carall				
3. Choose and produce an equivalent form of an expression to reveal and explain properties of the quantity represented by the expression.*	Important Mathematical Ideas	1	2	3	4
 Complete the square in a quadratic expression to reveal the maximum or minimum value of the function it defines. 	01.71				
Note: Quadratic and exponential.	Skills and Procedures	1	2	3	4
	Mathematical Relationships	1	2	3	4
Indicate the chapter(s), section(s), and/or page(s) reviewed.	Summary / Justification / E	vidence	may & mi	in.	
7.12 8.6 8.7	Portions of the domain, cludeveloped in the instruction of the domain, cludeveloped in the instruction of the domain, cludeveloped in the instruction of the domain of the instruction of the domain of the instruction of the instruction of the instruction of the domain of the instruction of the instructi	nal materia	Is (if any):	missing or no	ot well
	Overall Rating	1	O 2	3	4

Reviewed By:	
Title of Instructional Materials:	

ALGEBRA I — ALGEBRA (A)

Seeing Structure in Expressions (A-SSE)

Seeing Structure in Expressions (A-SSE)					
Write expressions in equivalent forms to solve problems.	Summary and documentation met. Cite examples from the	on of how the	he domain, clus	ster, and stand	dard are
A-SSE.3c					
Choose and produce an equivalent form of an expression to reveal and explain properties of the quantity represented by the expression.*	Important Mathematical Ideas	1	2	3	4
 c. Use the properties of exponents to transform expressions for exponential functions. For example the expression 1.15' can be rewritten as (1.15¹/¹²²)¹²² ≈ 1.012¹²² to reveal the approximate equivalent monthly interest rate if the annual rate is 15%. Note: Quadratic and exponential. 	Skills and Procedures	1	2	3	→ 4
	Mathematical Relationships	1	2	3	4
	Summary / Justification / Ev	vidence			
Indicate the chapter(s), section(s), and/or page(s) reviewed.					
6.13 Ex 11	Portions of the domain, clust developed in the instruction	ster, and stand stand	andard that are s (if any):	missing or no	ot well
	The state of the state of				
The state of the s	Overall Rating	1	O 2	3	

Reviewed By:

Title of Instructional Materials:

ALGEBRA I — ALGEBRA (A)

Arithmetic with Polynomials and Rational Expressions (A-APR)

Perform arithmetic operations on polynomials.	Summary and documentation met. Cite examples from the	on of how the	e domain, clust	er, and stand	ard are
A-APR.1					
Understand that polynomials form a system analogous to the integers, namely, they are closed under the operations of addition, subtraction, and multiplication; add, subtract, and multiply polynomials.	Important Mathematical Ideas	1	2	3	4
Note: Linear and quadratic.					
	Skills and Procedures				
		0	2	3	4.
	Mathematical Deletionation				
	Mathematical Relationships	1	2	3	4
Indicate the chapter(s), section(s), and/or page(s) reviewed.	Summary / Justification / Ex problems u	vidence expanding	ex pression	no ñ 3	>
7.1 Ex 14 2.4 Ex 10	Portions of the domain, clus developed in the instruction	ster, and sta	ndard that are n	nissing or not	t well
7.18 Ex 18			(, , .		
	90000 0000				
	Overall Rating		0		
		1	2.	3	4

Reviewed By:	•
Title of Instructional Materials:	

ALGEBRA I — ALGEBRA (A)

Creating Equations (A-CED)

Create equations that describe numbers or relationships.	Summary and documentation met. Cite examples from the	on of how the materials.	ne domain, clu	ster, and stan	dard are
A-CED.1					
Create equations and inequalities in one variable and use them to solve	Important Mathematical Ideas	+			
problems. Include equations arising from linear and quadratic functions, and simple rational and exponential functions.*		1	2	3	4
Note: Linear, quadratic, and exponential (integer inputs only).	0):"				
	Skills and Procedures	- 			
		1	2	3	4
	Mathematical Relationships	4			
		1	2	3	4
	Summary / Justification / Ev	/idence			
Indicate the chapter(s), section(s), and/or page(s) reviewed.					
	Portions of the domain, cluded developed in the instruction	ster, and stand and material	andard that are s (if any):	missing or n	ot well
	Overall Rating			+	
		1	2	3	4

The Charles A. Dana Center

Reviewed By:

Title of Instructional Materials:

CME - Alseba I

Documenting Alignment to the Standards for Mathematical Practice

1. Make sense of problems and persevere in solving them.

Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and relationships, graph data, and search for regularity or trends. Younger students might rely on using a different method, and they continually ask themselves, "Does solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches.

Indicate the chapter(s), section(s), or page(s) reviewed.

Portions of the mathematical practice that are missing or not well developed in the instructional materials (if any):

Summary/Justification/Evidence





Reviewed By:	
Title of Instructional Materials:	

Documenting Alignment to the Standards for Mathematical Practice

2. Reason abstractly and quantitatively.

Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to decontextualize—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to contextualize, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects.

Overall Rating

Indicate the chapter(s), section(s), or page(s) reviewed.

Portions of the mathematical practice that are missing or not well developed in the instructional materials (if any):

Summary/Justification/Evidence



CONTENT STANDARDS RUBRIC Algebra 1

The	Real	Number	Sy	stem	N	-RN

Extend the properties of exponents to rational exponents.

- 1. Explain how the definition of the meaning of rational exponents follows from extending the properties of integer exponents to those values, allowing for a notation for radicals in terms of rational exponents. For example, we define 51/3 to be the cube root of 5 because we want (51/3)3 = 5(1/3)3 to hold, so (51/3)3 must equal 5.
- 2. Rewrite expressions involving radicals and rational exponents using the properties of exponents.

Use properties of rational and irrational numbers.

3. Explain why the sum or product of two rational numbers is rational; that the sum of a rational number and an irrational number is irrational; and that the product of a nonzero rational number and an irrational number is irrational

manonai, and t	·		opme		1	Conne	ection	S			nd Dej		Overall/Evidence
Mathematical Ideas	devel	oped (4)	ceptually or appro skill leve	ached	Are ideas expanded to other math ideas (4) or developed independently of each other (1)?				importa of mult only us	ant idea tiple app	re extens s and the proaches cedures a (1)?	use (4) or	
	4	3	2	1	4	3	2	1	4	3	2	1	
Skills and Procedures	integr or are	rated wit	procedur h math id e primary (1)?	deas (4)	connector connector	ted to o	orocedure ther idea solated s ction (1)	as (4) kills	Are skills and procedures critical to the application of other math ideas (4) or are they practiced without conceptual development (1)?				
	4	3	2	1	4	3	2	1	4	3	2	1	
Mathematical Relationships	to bu	ild under ar as a s	tionships standing eries of skills (1)?	(4) or	Are relationships integrated with other math ideas (4) or are problems focusing on drill only(1)?				broad require	use of n	os require nath (4) o e of skills)?	or only	
	4	3	2	1	4	3	2	1	4	3	2	1	
Missing or weak				andard	RN-	-	452 452	cla	im 6,	ll is i	income	e K	Missign

Overall for this Standard: __/

Algebra 1

Quantities N -Q

Reason quantitatively and use units to solve problems. (Foundation work with expressions, equations, and functions)

- 1. Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays.
- 2. Define appropriate quantities for the purpose of descriptive modeling.
- 3. Choose a level of accuracy appropriate to limitations on measurement when reporting quantities.

		Devel	opmei	nt	(Conne	ection	S	Rig	jor an	id Dej	oth	Overall/Evidence
Mathematical Ideas	devel	oped (4)	ceptually or appro skill leve		math i	deas (4)	nded to or deve of each	loped	Do ideas require extension of important ideas and the use of multiple approaches (4) or only using procedures and memorization (1)?			use (4) or	M. 322327
	4	3	2	1	4	3	2	1	4	3	2	1	
Skills and Procedures	integi or are	rated wit	procedur h math ic e primary (1)?	leas (4)	or treated as isolated skills other math ideas (4) or are with no connection (1)? they practiced without conceptual development (1)?								
	4	3	2	1	4	3	2	1	4	3	2	1	
Mathematical Relationships	to bu	ild under ar as a se	tionships standing eries of skills (1)?	(4) or	Are relationships integrated with other math ideas (4) or are problems focusing on drill only(1)?				broad require	ationship use of m the use ures (1)	ath (4) of skills	or only	
	4	3	2	1	4	3	2	1	4	3	2	1	

Missing or weak content from this standard

we with to a lest malproblem.

Overall for this Standard:

Algebra 1

Seeing Structure in Expressions A-SSE
Interpret the structure of expressions

i. Interpret expressions that represent a quantity in terms of its context.

- a. Interpret parts of an expression, such as terms, factors, and coefficients.
- b. Interpret complicated expressions by viewing one or more of their parts as a single entity. For example interpret P(1+r) as the product of P and a factor not depending on P.
- 2. Use the structure of an expression to identify ways to rewrite it. For example, see $x_1 y_1$ as $(x_2)_2 (y_2)_2$, thus recognizing it as a difference of squares that can be factored as $(x_2 y_2)(x_2 + y_2)$ 7.12 $(x_2 + y_2)(x_2 + y_2)$

Write expressions in equivalent forms to solve problems

- 3. Choose and produce an equivalent form of an expression to reveal and explain properties of the quantity represented by the expression. *
- a. Factor a quadratic expression to reveal the zeros of the function it defines.
- b. Complete the square in a quadratic expression to reveal the maximum or minimum value of the function it defines.
- C. Use the properties of exponents to transform expressions for exponential functions. For example the expression 1.15, can be rewritten as (1.15):12 = 1.012:15 to reveal the approximate equivalent monthly interest rate if the annual rate is 15%.

арргохинае сцанчно	Development	Connections	Rigor and Depth	Overall/Evidence
Mathematical Ideas	Are ideas conceptually developed (4) or approached from a simple skill level (1)?	Are ideas expanded to other math ideas (4) or developed independently of each other (1)?	Do ideas require extension of important ideas and the use of multiple approaches (4) or only using procedures and memorization (1)?	
	4 3 2 1	4 3 2 1	4 3 2 1	
Skills and Procedures	Are skills and procedures integrated with math ideas (4) or are they the primary focus of the lesson (1)?	Are skills and procedures connected to other ideas (4) or treated as isolated skills with no connection (1)?	Are skills and procedures critical to the application of other math ideas (4) or are they practiced without conceptual development (1)?	
	4 3 2 1	4 3 2 1	4 3 2 1	
Mathematical Relationships	Are math relationships evident to build understanding (4) or appear as a series of independent skills (1)?	Are relationships integrated with other math ideas (4) or are problems focusing on drill only(1)?	Do relationships require a broad use of math (4) or only require the use of skills and procedures (1)?	
	4 3 2 1	4 3 2 1	4 3 2 1	

Missing or weak content from this standard

Overall for this Standard:

Algebra 1

Arithmetic with Polynomials and Rational Expressions A -APR

Perform arithmetic operations on polynomials

1. Understand that polynomials form a system analogous to the integers, namely, they are closed under the operations of addition, subtraction, and multiplication; add, subtract, and multiply polynomials.

	Development Connections							S	Rig	or an	d De	oth	Overall/Evidence
Mathematical Ideas	Are ide develo	eas conce ped (4) (ached	math io	leas (4)	nded to or devel of each o	oped	import of muli only us	ant ideas tiple app	e extens and the roaches edures a 1)?	use (4) or	
	4	3	2	1	4	3	2	1	4	3	2	1	
Skills and Procedures	integra or are	ited with	rocedure math id primary L)?	eas (4)	connec	ted to o	rocedure ther idea olated sl tion (1)?	is (4) kills	Are skills and procedures critical to the application of other math ideas (4) or are they practiced without conceptual development (1)?				
	4	3	2	1	4	3	2	1	4	3	2	1	
Mathematical Relationships	ships to build understanding (4) or appear as a series of					her mati	os integr h ideas (ocusing ((4) or	broad require	use of m	s require ath (4) o of skills ?	or only	·
	4	3	2	1	4	3	2	1	4	3	2	1	

Overall for this Standard: _____

Missing or weak content from this standard

CONTENT STANDARDS RUBRIC Algebra 1

Creating Equations A -CEL	Creating	Equations		А	-CED
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Create equations that describe numbers or relationships

- 1. Create equations and inequalities in one variable and use them to solve problems. Include equations arising from linear and quadratic functions, and simple rational and exponential functions.
- 2. Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales.
- 3. Represent constraints by equations or inequalities, and by systems of equations and/or inequalities, and interpret solutions as viable or nonviable options in a modeling context. For example, represent inequalities describing nutritional and cost constraints on combinations of different foods.

4. Rearrange formulas to highlight a quantity of interest, using the same reasoning as in solving equations. For example, rearrange Ohm's law V = IR

to highlight resi	stance	<i>R</i> .			1				<u> </u>		1 D =	- 	Overall/Evidence				
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Overall for this Standard: __/

Algebra 1

Reasoning with Equations and Inequalities A -RE I

Understand solving equations as a process of reasoning and explain the reasoning

1. Explain each step in solving a simple equation as following from the equality of numbers asserted at the previous step, starting from the assumption that the original equation has a solution. Construct a viable argument to justify a solution method.

Solve equations and inequalities in one variable

- 3. Solve linear equations and inequalities in one variable, including equations with coefficients represented by letters.
- 4. Solve quadratic equations in one variable.
- a. Use the method of completing the square to transform any quadratic equation in x into an equation of the form (x-p)2 = q that has the same solutions. Derive the quadratic formula from this form. 7.12

b. Solve quadratic equations by inspection (e.g., for x2 = 49), taking square roots, completing the square, the quadratic formula and factoring, as appropriate to the initial form of the equation. Recognize when the quadratic formula gives complex solutions and write them as $a \parallel bi$ for real numbers a and b.

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CONTENT STANDARDS RUBRIC Algebra 1

Interpreting	***	1 11
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Understand the concept of a function and use function notation

1. Understand that a function from one set (called the domain) to another set (called the range) assigns to each element of the domain exactly one element of the range. If f is a function and x is an element of its domain, then f(x) denotes the output of f corresponding to the input x. The graph of f is the graph of the equation y = f(x).

2. Use function notation, evaluate functions for inputs in their domains, and interpret statements that use function notation in terms of a context. 7.//2 3. Recognize that sequences are functions, sometimes defined recursively, whose domain is a subset of the integers. For example, the Fibonacci

sequence is defined recursively by f(0) = f(1) = 1, f(n+1) = f(n) + f(n-1) for $n \ge 1$.

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Missing or weak content from this standard

Overall for this Standard: ___

CONTENT STANDARDS RUBRIC Algebra 1

Interpreting Functions F-IF

Interpret functions that arise in applications in terms of the context

- 4. For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship. Key features include: intercepts; intervals where the function is increasing, decreasing, positive, or negative; relative maximums and minimums; symmetries; end behavior; and periodicity.
- 5. Relate the domain of a function to its graph and, where applicable, to the quantitative relationship it describes. For example, if the function h(n) gives the number of person-hours it takes to assemble n engines in a factory, then the positive integers would be an appropriate domain for the function.

6. Calculate and interpret the average rate of change of a function (presented symbolically or as a table) over a specified interval. Estimate the rate of

change from a graph.

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Missing or weak content from this standard

Overall for this Standard:

DEFINITIONS

DEVELOPMENT – the scaffolding, or logical sequencing of mathematical concepts and ideas

For example: When concepts are introduced, is there a logical sequence of building onceptual understanding prior to teach Are concepts introduced informally and formalized after a conceptual feestablished?	ning procedures?
CONNECTIONS - connecting math ideas to other mathematical idea	as, other content areas,
and the real world.	
For example: Are skills taught in isolation or are procedural proficiency and conceptue interconnected? Are concepts connected to other math concepts? (graphing connects to the concepts connected to other content or real-world applications?	
RIGOR AND DEPTH — the cognitive level of questioning, problems, deeper thinking and understanding.	and examples require
For example: Is the text just asking for procedural knowledge or does the text requiabout how to arrive at an answer? Is the student asked to justify or explain their answers, or just write d	

TEXTBOOK ADOPTION – ALGEBRA 1 SUMMARY REVIEW

Company/Title				Grade level or course:													
Teacher Name								Sc	School:								
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Overall Content Rating 1 2 3 4									Overall Process Rating 1 2 3 4								
Rationale:								Rati	ionale:								